Claims

What is claimed and desired to be secured by Letters Patent is:

1. A highway/railroad crossing detection and warning system comprising:

   a) a Doppler radar transmitter and receiver system at a highway/railroad crossing site which detects movement if a train approaches the crossing;

   b) a presence detection system at the crossing site which detects a train at the crossing;

   c) warning signal devices at the crossing activated by said Doppler radar transmitter and receiver system or by said presence detection system for providing warning to a motorist approaching the crossing.

2. The detection and warning system set forth in Claim 1 including a solar electrical power generation array and storage battery powering said Doppler radar transmitter and receiver system and said presence detector system.

3. The detection and warning system set forth in Claim 1 wherein the presence detection system operates within a limited area close by the highway/railroad crossing to determine the presence of a train within that area.

4. A highway/railroad crossing detection and warning system comprising:

a) a Doppler radar transmitter and receiver system positioned at a highway/railroad crossing and able to detect a moving train at an extended distance from said crossing;

b) a presence detection system also positioned at said highway/railroad crossing and able to detect a train in a close proximity to said crossing;

c) warning signal devices at said crossing activated by said Doppler radar system and by said presence detection system and providing warning to motorists approaching said crossing; and

d) solar panel arrays and storage batteries powering said Doppler radar system, said presence detector system and said warning signal devices.

5. A highway/railroad crossing detection and warning system comprising:

a) a Doppler radar transmitter and receiver warning system at a highway/railroad crossing site which detects movement of a train approaching the crossing, the radar warning system comprising two sets of first and second transmitter/receiver units respectively positioned adjacent a railroad track and located an extended distance from the crossing with one set on one side of the crossing, the first transmitter/receiver unit of each set directed away from the crossing and the second transmitter/receiver unit of each set directed toward the crossing;

b) a presence detection system at the crossing site and comprising present detection units respectively positioned adjacent the railroad track and located a close distance from the crossing;

c) warning signal devices at the crossing for warning a motorist at the crossing;

d) wireless communication devices transmitting and receiving signals between the radar warning system and presence

detection warning system to the warning signal devices to control their activation; and

e) solar panel arrays and storage batteries powering all of said systems and warning signal devices.

6. A highway/railroad crossing detection and warning system comprising:

a) a Doppler radar transmitter and receiver warning system at a highway/railroad crossing site which detects movement of a train approaching the crossing, the radar warning system comprising two sets of first and second transmitter/receiver units respectively positioned adjacent a railroad track and located an extended distance from the crossing, with one set on one side of the crossing and the other set on another side of the crossing, the first transmitter/receiver unit of each set directed away from the crossing and the second transmitter/receiver unit of each set directed toward the crossing; and

b) warning devices responsive to signals from said Doppler radar transmitter and receiver warning system.